National Wildland Significant Fire Potential Outlook

National Interagency Fire Center
Predictive Services

Issued: May 1, 2012

Next Issue: June 1, 2012

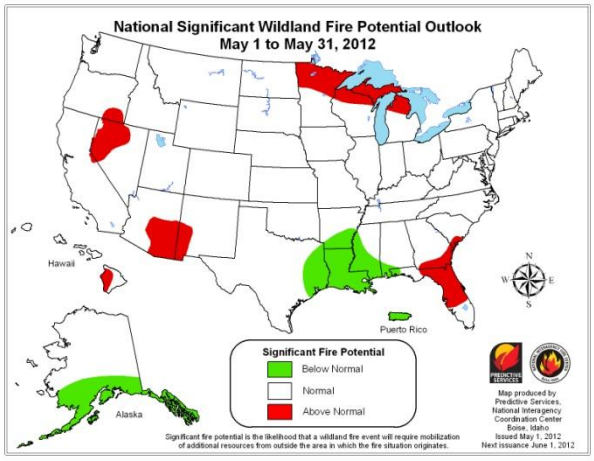
Wildland Fire Outlook – May through August 2012

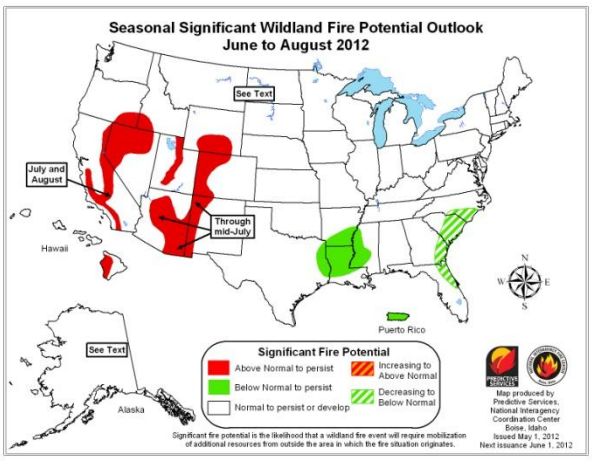
The May through August 2012 significant fire potential outlooks are shown below. The primary factors influencing these outlooks are:

- **El Niño/Southern Oscillation:** Conditions in the equatorial Pacific continue to trend toward neutral conditions with the possibility of entering an El Niño phase by early summer. However, timing remains very uncertain.

- **Drought:** The abnormally dry winter for most of the western U.S. continued the severe to exceptional drought from last year across most of western Texas, New Mexico and Arizona, with rapidly developing drought conditions across California, Nevada, Utah and Colorado. Severe to exceptional drought persisted in the southeastern U.S. across Florida, Georgia, South Carolina and southern Alabama. Drought has continued or developed over the Northern Plains and Upper Mississippi regions and along the eastern seaboard from North Carolina to Maine.

- **Fuel Conditions:** La Niña conditions that extended into the fall and winter had a significant effect on fuels conditions across the U.S. Abundant fine fuels stretching across the south central U.S. into New Mexico early last year led to significant fires much earlier than normal. This year, in contrast, has seen greatly reduced fine fuel availability largely due to the extremely dry conditions that persisted through the winter. Carryover fuels from last year remain across the Great Basin and the northern and central Plains. Lack of significant snowfall at lower elevations in these areas left an abundance of standing grasses, making them available for this fire season.





Note: Significant fire potential is defined as the likelihood that a wildland fire event will require mobilization of additional resources from outside the area in which the fire situation originates.

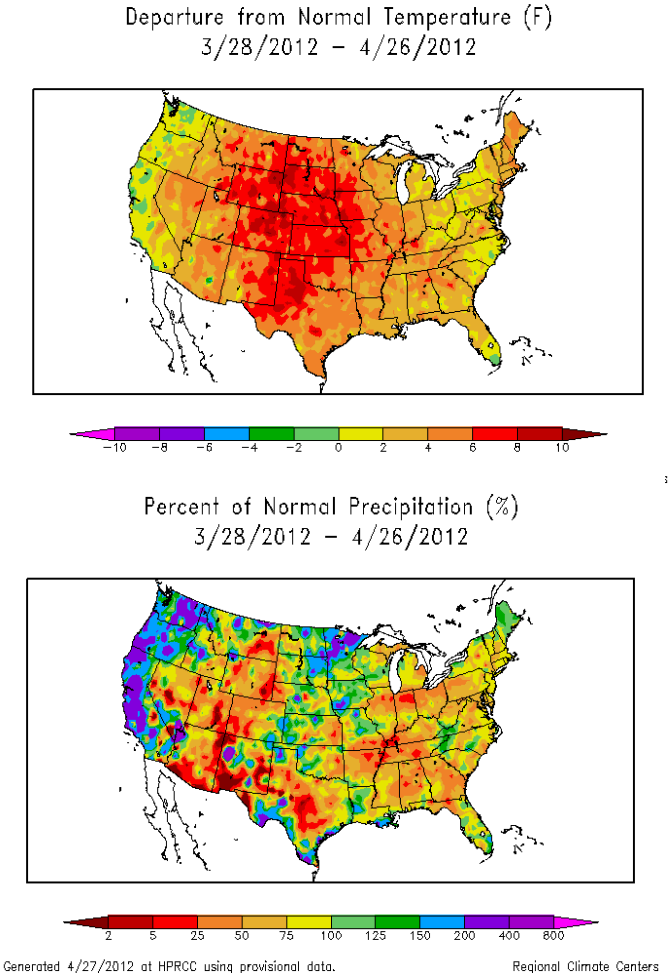
Past Weather and Drought

A very active trough pattern persisted over the western U.S. during April, continuing the very wet conditions along the West Coast and Northwest. However, the troughs quickly dried out moving over the interior west, leaving precipitation deficits from the Great Basin to the East Coast. A few storms brought much needed rain to the upper Midwest and some parts of the Plains.

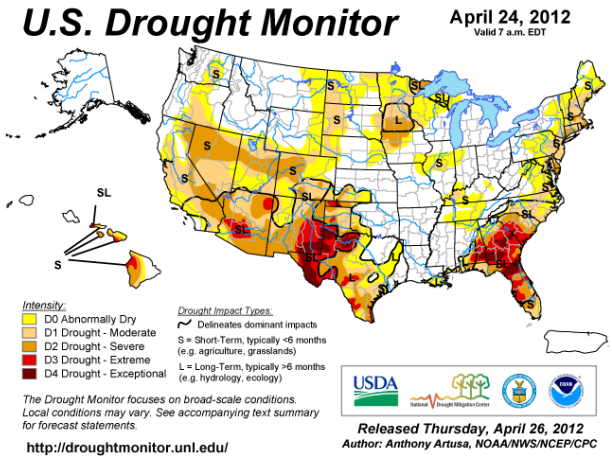
Despite the trough pattern, temperatures soared across much of the country. Prefrontal warming and downslope winds east of the Rockies led to temperatures as much six to ten degrees above normal for the month over most of the Plains to the mid and upper Mississippi Valley. Temperatures were generally normal along the West and mid-Atlantic coasts with pockets of slightly below normal readings.

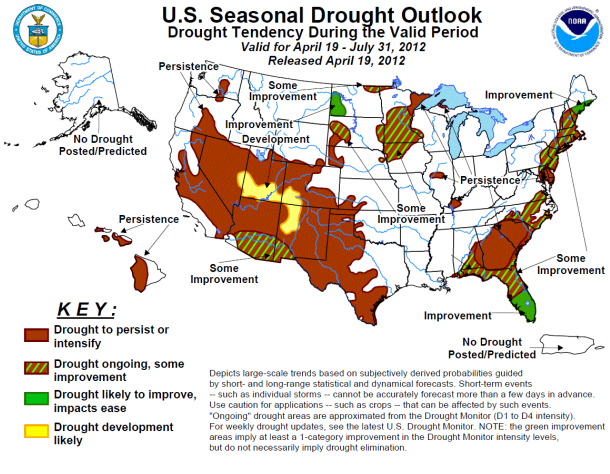
Drought continued to plague much of the southwestern and southeastern sections of the U.S. Severe to exceptional drought stretched from central Texas to California and north into the Great Basin. Severe to exceptional drought conditions also persisted in the southeast across Florida, southeastern Alabama, Geogia and South Carolina. Severe drought conditions continued across parts of the upper Midwest and the New England coast.

Departure from Normal Temperature (top) and Percent of Normal Precipitation (bottom) *(from High Plains Regional Climate Center)*



U.S. Drought Monitor (top) and Drought Outlook (bottom) *(from National Drought Mitigation Center and the Climate Prediction Center)*

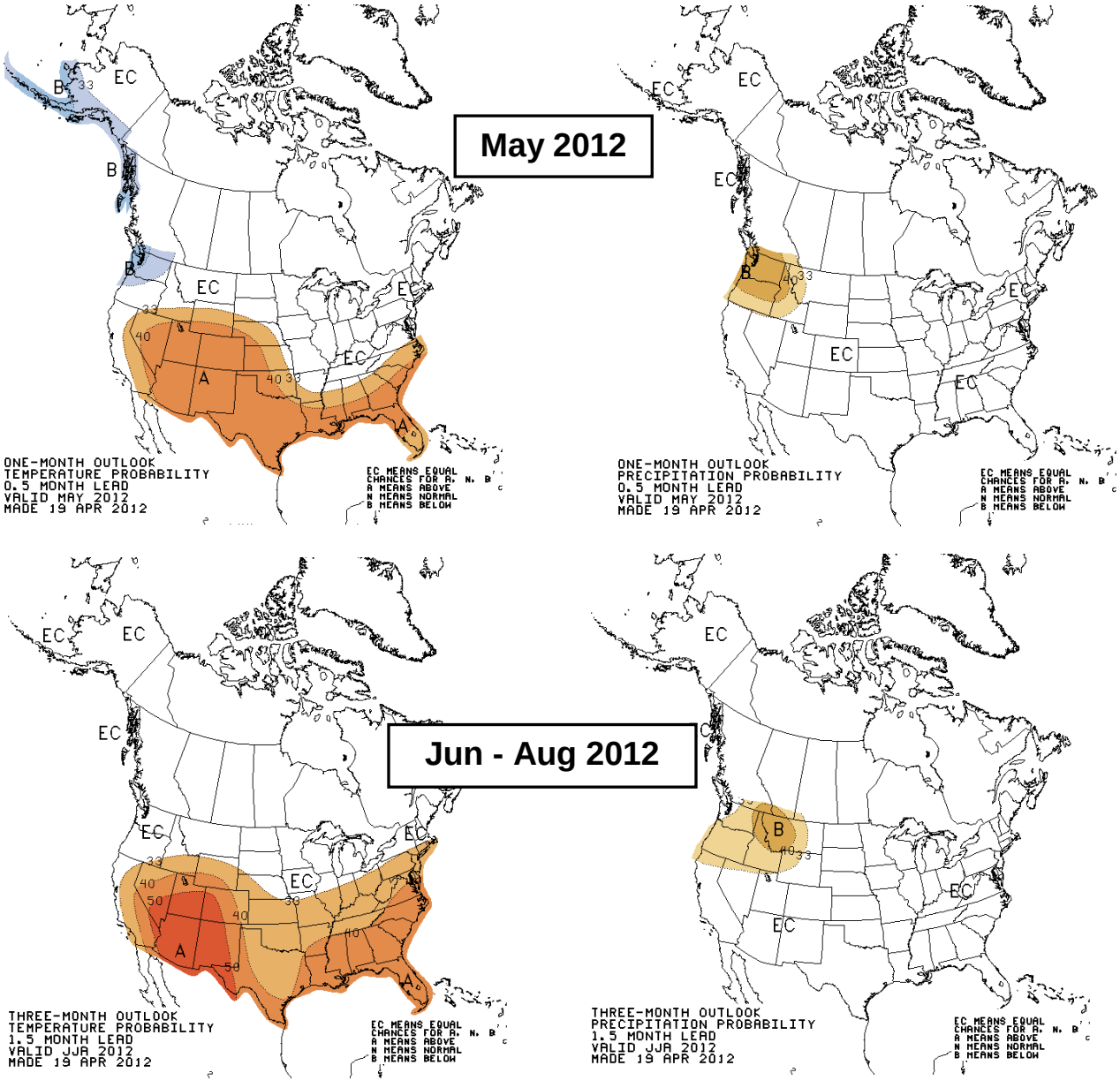




Weather and Climate Outlooks

Global patterns continue to evolve with a trend toward neutral ENSO conditions over the equatorial Pacific. Some warming of the ocean surface in favored regions is suggestive of developing El Niño conditions by early summer. Latest climate model solutions suggest El Niño conditions will develop sometime during the summer but uncertainty is high regarding the timing of this transition. Current climate projections by the Climate Prediction Center weigh heavily on neutral conditions entering the summer months. This would indicate above normal temperatures for May across most of Southwest, the Great Basin, central and southern Rockies, the central Plains, and the coastal States from Texas to North Carolina. Below normal temperatures are expected over the far Northwest and southern Alaska. Precipitation projections for May indicated a high likelihood of below median precipitation for the Northwest and northern Rockies. For June through August, temperature projections show above normal temperatures are expected across most of the southern two-thirds of the country. Precipitation projections lean to a higher probability of below median in the Northwest and northern Rockies.

Top row: One-month (May) outlook for temperature (left) and precipitation (right). Bottom row: Three month (June - August) outlook for temperatures (left) and precipitation (right). *(from Climate Prediction Center/NOAA)*



Area Discussions

Alaska: Throughout Interior and northern Alaska, early season significant fire potential is normal. South of the Alaska Range, significant fire potential is expected to be below normal through May. June will see normal significant fire potential statewide. The late fire season is questionable due to uncertainty of changes in the El Niño Southern Oscillation (ENSO). North of the Alaska Range, fuels were slightly dry last fall, and snowpack was normal. South of the range, fall fuels were damp and snowpack is still well above normal. June is typically Alaska's busiest month as temperatures peak, precipitation is minimal, and both lightning and human outdoor activity reach their maximum. ENSO is currently in a neutral state. If it remains neutral, activity will taper off with increasing rains by the end of July and into August. If El Niño becomes dominant, it is likely that end-of-season rainfall will be delayed, and the fire season could be very active through August.

Southwest: Above normal significant fire potential is expected across southwestern New Mexico and the southeastern third of Arizona through May with the remainder of the Area largely normal. Overall, expect an erratic and active weather pattern during May that will be windy at times and interspersed with some warmer and drier periods. Increased periods of moisture across the east and eventually westward into New Mexico is likely as May progresses. This will eventually introduce a higher likelihood of lightning westward towards the divide which coincides with the area of above normal significant fire potential across southwestern New Mexico into eastern Arizona. Confidence is moderate in this forecast as a variable time of year is coupled with an ongoing uncertainty of the transition from La Niña to neutral ENSO conditions as well as the possibility of a return to El Niño conditions and the resultant differences in the pattern. Confidence is moderate in this forecast as a changeable time of year is coupled with an ongoing transition from La Nina to neutral ENSO conditions as well as the possibility of a return to El Nino conditions and the resultant pattern which greatly complicates this forecast and lessens the overall confidence.

Above normal significant fire potential is expected to gradually expand northwestward across New Mexico and Arizona to encompass a large portion of Arizona and far western New Mexico for June through August. The most certain occurrence during this timeframe is continued wetter conditions across the eastern third of the Area than last season. This will lead to periodic moisture surges westward into New Mexico and Arizona leading to an eventual increase in lightning activity. Despite the aforementioned points, there remains a considerable amount of uncertainty in the overall forecast mainly revolving around the state of ENSO as this drives the overall North American weather pattern. A slower transition from La Niña and a move to only neutral conditions would likely point towards hotter temperatures across the eastern third with more moisture across the southeastern third of the Area while more normal temperatures and much drier conditions would exist across the northwestern half during this timeframe. A quicker, definitive transition towards an El Niño would mean cooler and wetter conditions across the northwestern half of the Area as well as across the far east with more normal temperatures and drier than normal precipitation across much of the southeastern half of the Area. The monsoonal pattern is also influenced by the state of ENSO as well, and given the present uncertainty in regards to ENSO transition timing, considerable uncertainty exists in regards to the both the monsoonal onset and strength. Given these concerns, confidence is presently low in this forecast.

Northern Rockies: ENSO neutral conditions are expected to continue through May as equatorial sea surface temperatures approach normal conditions. Looking back, March and April were unusually warm and dry for areas east of the divide, with several large pre-green up grass fires occurring. While abundant standing fine fuel remains in place, the immediate fire potential has been somewhat mitigated by a substantial wetting rainfall event that impacted the Area the last week April. That event along with periodic weaker wetting events should provide enough moisture to allow for full green up to occur in May. Along and west of the divide, normal green up is occurring. As a result, the western half of the Area remains near normal significant fire potential. Snow pack should continue to melt normally in the absence of any unusual warm spells. May and June are the wettest months for the Area so anticipate some additional drought relief for eastern Montana and North Dakota.

There is much uncertainty about significant fire potential for the summer. There are two very different scenarios possible during this period depending on the eventual ENSO state. If a transition to weak El Niño occurs, which is the most likely scenario, anticipate a normal start to fire season in early to mid-July. July could stay relatively dry and see some grass fire activity. However, August should be cooler with wetting thunderstorms and periodic systems moving across the region. These storms will help keep the fuel dryness below critical levels and significant fire potential would remain normal throughout the Area. If we stay in neutral conditions, anticipate a normal start to fire season, probably in early July. The entire Area would stay warm and dry and all classes of fuels would dry, possibly to critical levels. With the ongoing drought east of the divide, there could be above normal significant fire potential. West of the divide would also see significant drying. Heavy carry over cured grass loading may be a problem for eastern Montana and western North Dakota if significant moisture is not received in May and June. If this area remains dry, expect above normal significant fire potential for central and eastern Montana and the west half of North Dakota. While this scenario is not as likely as the first, there is enough uncertainty in the outlook that it is a possibility.

Western Great Basin: There are typically no significant fires during May, but an increase in general fire activity begins by late May, transitioning into fire season in June. However, northern and western Nevada has above normal significant fire potential under windy conditions, especially after a warm and dry period. This area has been exceptionally dry this winter, with above normal ERCs. During windy conditions, the current crop of fine fuels has shown the ability to carry fire if an ignition occurs. A lightning outbreak occurred in April where 47 new lightning fires were reported; though these fires remained small, this amount of fire starts is significantly above normal for April. Medium range models indicate the first half of May could predominantly be dry with above normal temperatures. As fuels dry out further, fires may become more significant in May. Temperatures over the last month have been above normal across much of the state. Dry conditions have also persisted for much of the past month, with precipitation 10 to 50 percent of normal in many areas across the northern half of Nevada, and only near to above normal over southern Nevada. ERCs have remained above normal and even reached historical maximum values for April in parts of the Area, with fuel moistures still very low across the state. Snowpack remains well below normal in Nevada. Some areas in northeast Nevada have little to no snowpack left, while areas in western Nevada and the Sierra are only 30 to 50 percent of normal. Expect above normal temperatures and near normal precipitation across the state for May. Mostly moderate drought conditions across the southern half of Nevada and severe drought over the northern half of the state exist.

The Western Great Basin typically has only a couple significant fires in June across northern and southern Nevada. However, due to the abundance and dryness of the fuels over western and parts of northern and central Nevada, above normal significant fire potential conditions are expected to continue heading into summer. Drought is likely to develop in the far eastern parts of the state currently labeled with the drought to persist or intensify over the rest of Nevada. Above normal temperatures and near normal precipitation are expected across Nevada, with the exception of the far north where below normal precipitation may occur. A continuation of the current dry trend appears likely for at least southern and western Nevada as we head into summer. The only caveat appears to be the transition to ENSO neutral or El Niño by this summer. El Niño conditions may bring more precipitation to parts of southern and eastern Nevada, which would decrease the chances of seeing an above normal significant fire potential season. However, even a transition to El Niño may not be enough to increase precipitation over parts of western and northwest Nevada. Across the rest of northern Nevada, a switch to El Niño may also signify wetter conditions, reducing significant fire potential. However, if the transition to El Niño takes place it will strongly influence the timing of when the wetter period emerges.

Eastern Great Basin: Slightly above normal significant fire potential is expected for the higher elevations of central Utah and the southwest corner of Idaho. Normal significant fire potential is anticipated elsewhere across the Area. The forecast for above normal significant fire potential is

expected to occur later in the season during July and August when peak heating and dryness moves into the region. The high elevations of Utah have seen relatively little activity the last few years with heavier snowpack and wet spring weather. This forecast should emphasize the increased fire potential in these areas not only compared to normal, but also in comparison to recent experience. The low elevations of southwestern and western Utah are also expected to see increased activity relative to the past few years, but it's anticipated that the fire activity will remain normal which is generally fairly active. The below normal snowpack and recent warm temperatures across Utah have allowed heavier fuel types at the higher elevations to begin drying out earlier and these will likely become available to burn sooner than normal. Abnormally dry to moderate drought conditions have spread across the state of Utah in the past year and are not expected to see improvement over the next few months. While Idaho began with a precipitation deficit; frequent late winter and spring storms have brought precipitation totals back to near normal for much of the state, especially across the higher elevations. Portions of southeast Idaho still remain dry. Much of last year's abundant grass crop still stands across the lower elevations of western Utah and southern Idaho; however, with green up already underway this year, the effects of this crop are somewhat mitigated until later in the season.

Two forecast scenarios exist for the first part of the fire season that revolve around ENSO. The first, a neutral ENSO pattern, indicates warm and dry weather conditions to continue across the southern half of the Area. This would usher in an early start to fire season across all elevations and likely increase activity through the summer months. The second scenario, a transition to El Niño conditions, calls for a switch to cooler, wetter than normal conditions for May and June. Elements from both scenarios are incorporated into the forecast for the Eastern Great Basin. With the higher elevations of Utah having already lost most of their snowpack heavier fuels typically found at higher elevations will not be as affected by intermittent rain showers and will maintain higher significant fire potential through the period. Lower elevations and fine fuels are heavily influenced by any increase in relative humidity which will likely keep low elevation fires across the state constrained during these months. The above normal area in southwest Idaho takes into account the available standing grass crop from last year and the probability that this region will see warm and dry conditions by July and August which will likely be enough to increase fire activity into the above normal category.

If a quick switch to El Niño occurs, this may bring very warm, dry weather to the higher elevations of Idaho by the end of summer. These conditions could increase significant fire potential to above normal, especially over eastern Idaho where a slight dry signal already exists.

Northwest: April started unusually cool and dry over the Northwest Geographic Area but a series of warm fronts brought temperatures back toward normal values by the end of the month, culminating in a record setting warm weekend the third week of April. The frontal systems also provided plenty of precipitation to the majority of the Area. April ended with temperatures averaging near normal for the Area and generally above average rainfall for the majority of the Northwest. Snowpack remained generally at or above average for the Area in late April. Washington basins averaged well above normal with up to 150 percent of normal being reported while the Cascades of Oregon averaged near normal. Melt off is proceeding faster than usual in sections of eastern Oregon, particularly southeastern Oregon, where snow water equivalents were falling below normal values for late April. As is typical for May, fire danger indices remain below what is needed to sustain the risk of significant fires except in southeastern Oregon where above normal significant fire potential exists due to persisting dryness. Several wildfires have already occurred there in April. Elsewhere, fire danger is unlikely to rise to noteworthy levels for the remainder of the Area until early July and even then not exceed normal conditions.

Weather through early June over the Pacific Northwest is usually too cool and moist for sustained risk of significant fires. This is expected to be the case despite the fact that the current La Niña event has ended and the summer is likely to be warmer than the past several fire seasons. Beginning in July and persisting through August, warm and dry weather is expected to set in more consistently than

seen in recent years. This should elevate significant fire potential to normal levels earlier in the summer than has been seen in the past several fire seasons. Thus, the risk of significant fires is anticipated to be near normal over the Area, which means some significant fires are likely, except southeastern Oregon where persistently dry conditions have elevated the risk of significant fires to above normal.

Northern California and Hawaii: Due to a cool and wet April across most areas significant fire potential will be below normal throughout Northern California. Snowpacks across the mountains are near normal for northern areas, and even though they are still below normal towards the Tahoe region this will not increase the significant fire potential in May. The lower and middle elevations are now into green up and with the recent moist conditions and no sign of a prolonged warm pattern, an increase in significant fire potential is not expected until the June through August period.

Most of the Hawaiian Islands have experienced below normal precipitation in the last month. Moderate to locally severe drought conditions continue across some of the drier leeward areas. Overall, expect normal significant fire potential across most areas, except for above normal significant fire potential across the most extreme drought stricken areas of The Big Island.

Normal significant fire potential is expected for most areas of Northern California from June through August. However, across the eastern portion of the Area and into parts of the Sierra where drought conditions persist along with snowpack levels near half of normal, it is likely that some above normal significant fire potential conditions will develop throughout the period. There is some indication of a warmer and drier pattern developing. Thus by June onward there is the possibility of above normal significant fire potential for the northeastern portion of the Area.

In Hawaii, the prolonged drought continues across the Big Island with widespread moderate to severe drought across leeward areas. Recent rains of the past few months have diminished the drought conditions for much of the remainder of the northern and western islands. Still some lingering slight to moderate drought conditions for smaller areas of Maui and Molokai'i remain. With the wet season coming to an end, most areas should see near normal significant fire potential this summer with above normal significant fire potential to continue across the leeward side of The Big Island.

Southern California: Even though fuels are drier than normal, recent rains will likely limit fire activity until the early part of May and therefore a normal start to fire season is expected. Significant fire potential across southern and central California is expected to be above normal over many interior areas including all of the mountains and foothills away from the coast beginning in July. Multiple large fires may occur during hot and dry periods. Below normal rainfall across the entire Area (50 to 70 percent of normal) has led to drier than normal fuels conditions. Late season rains have led to a secondary grass crop in some areas and the fine fuels are in various stages of curing. Full curing of fuels is expected by June. Snowpack in the Sierra has been significantly below normal as well and in many areas half of normal. Subsurface soil moisture only extends downward a few inches, which will profoundly affect live fuel moisture values this summer. Also, drought conditions are developing and expanding over the region. Expect this year's fire season to largely be driven by the fuel conditions.

Despite the recent rainy weather, precipitation is expected to taper off in May and June as is typical of central and southern California. The state receives very little of its annual rainfall from May through summer months. Therefore, little if any beneficial wetting rains are expected during the late spring into the summer. It remains to be seen whether this summer's monsoon season will yield appreciable rainfall. The La Niña which was in place this winter is quickly dissipating. An El Niño may develop this summer which may, or may not, impact the summer weather patterns across the West. A comparison of similar seasons in which a La Niña evolved into an El Niño indicated summer precipitation was generally below normal. However, the spring into the early summer may be cooler than average due to a higher than normal number of troughs that prevail off the Pacific Coast. This pattern occurred in 2010 and 2011. The trend for the atmosphere to generate deep troughs offshore

led to a cool spring with pervasive onshore flow. This also kept the summer monsoon surge suppressed to the south and east of the Area. Overall, temperatures and precipitation are expected to be near normal over the Area this summer.

Rocky Mountain: Normal significant fire potential is forecast for the Rocky Mountain Area during May. Although snowpack was depleted early this spring, especially in Colorado and the Black Hills, as a result of a very warm and dry March, precipitation received during the month of April has helped to facilitate green up of fine fuels across the Area. On average May is one of the wetter months for the Area, and long range forecasts for the month are not indicating a substantial lean towards either drier or wetter than average conditions. Thus, the combination of green up of fine fuels across the area and occasional precipitation opportunities, are the primary factors in significant fire potential for May being normal. Normal fire activity during the month of May implies that some mainly short duration large fire activity can be expected, but with less chance of multiple long duration significant fires.

Fire potential over the Rocky Mountain Area is expected to be normal for much of the Rocky Mountain Area for June through August, however, above average significant fire potential is anticipated for western Colorado and south central Wyoming. Long term drought exists in the above average fire potential areas, especially west of the continental divide in Colorado. Additionally, indicators point towards a general warming trend in the equatorial Pacific sea surface temperatures over the next few months, with neutral to weak El Niño predicted during the summer period. The resultant weather pattern for the Area includes near to above average temperatures across the region during June through August, while precipitation east of the divide is expected to be near to above normal, with a drier regime west of the divide.

Eastern Area: Drought conditions which developed across parts of the Great Lakes through the fall and the winter were alleviated somewhat through the latter portion of April. However, moderate drought was still present across portions of Minnesota, northern Wisconsin, and the Upper Peninsula of Michigan. Precipitation deficits also developed through April across parts of the northern Lower Peninsula of Michigan. Energy release components (ERC's) and fuel moistures were still at critical levels in some areas across the northern Great Lakes. Conifer needle moisture was also below normal here at the end of April. Storm blow down in northwest Wisconsin will provide another downed fuel component which may lead to above normal fire significant potential. The overall weather pattern is expected to shift to a more active pattern across the Area through early May, which should reduce significant fire potential overall Area into May. However, with the long to medium range drought which set up across parts of the Great Lakes through the fall and winter, any warm and windy periods may lead to above normal significant fire potential over the northern Great Lakes in May prior to full green up. Shorter term drought also developed along the east coast through April. However, precipitation increased through the latter portion of April which reduced overall significant fire potential. The southern tier of the Eastern Area was at or near full green up at the beginning of May.

Southern Area: The greatest persistent threat remains over the Florida peninsula where Keetch-Byram Drought Index values, still remain very high despite recent rain fall. Significant fire potential in this area as well as southern Georgia and the southern corner of South Carolina will be above normal through May. While it is likely that precipitation activity will increase, so will the threat of lightning ignitions. Heavier rain fall near southern Florida has the potential to dampen the fire threat there. Florida's seasonal total acres burned normally peak from May into June. Much of the remainder of the Area is going to experience normal significant fire potential, with the exception of eastern Texas, Louisiana, and southern Arkansas, Mississippi and Alabama. Here the moist spring conditions have significantly reduced the ongoing drought and forecasts for continued periodic showers will likely leave this area with below normal significant fire potential.

As the trend toward El Niño continues in the tropical Pacific and as Southern Area moves into the more humid summer period, the overall significant fire potential decrease. Expected higher tropical

energy likely in the early half of the season should bring increased precipitation both in volume and frequency. This will cause most of the Area to reflect normal significant fire potential, however, portions of east Texas, Arkansas, Louisiana and Mississippi will continue to see below normal significant fire potential and the Atlantic coast from Central Florida through central North Carolina will decrease to below normal significant fire potential through the period.

For questions about this outlook please contact the National Interagency Fire Center at (208) 387-5050.

Historic and Predicted Wildland Fires and Acres Burned Data

Based on data reported year-to-date in 2012, nationally there were 75 percent of the average numbers of fires burning approximately 41 percent of the average acres. Nationally, as of April 30, the 10 year average number of fires is 23,732 and the 10 year average acres burned is 919,941. The following table displays 10 year historical, current and predicted information pertaining to fire statistics.

Apr Reported Year-To-Date		AVG reported for May	Projection for May YTD+Forecast	Average Reported YTD May	10 Yr Low YTD May	Year of Low	10 Yr High YTD May	Year of High
ALASKA								
Fires	22	154	89	185	90	2004	262	2010
Acres	13	87,655	1,341	88,156	223	2004	355,363	2002
NORTHWEST								
Fires	80	134	222	196	66	2003	385	2004
Acres	7,855	475	8,804	897	91	2003	2,564	2001
NORTH OPS								
Fires	417	234	1,097	349	30	2011	724	1997
Acres	699	1,563	2,681	2,993	100	2005	8,570	2001
SOUTH OPS								
Fires	667	572	1,816	865	131	2006	1,560	2007
Acres	915	7,416	3,581	10,430	1,836	2003	34,779	2004
NORTHERN ROCKIES								
Fires	490	268	1,025	510	149	2011	1,050	2011
Acres	27,086	5,126	35,108	13,703	578	2010	25,856	2000
EAST BASIN								
Fires	138	71	279	111	46	2005	188	2006
Acres	1,386	1,271	3,928	2,205	270	2011	9,449	2006
WEST BASIN								
Fires	106	26	158	59	0	2010	130	2007
Acres	4,645	977	6,600	1,626	0	2010	8,144	2001
SOUTHWEST								
Fires	543	519	1,026	1,144	715	2010	1,910	2006
Acres	19,422	88,841	36,078	203,213	19,742	2001	708,041	2011
ROCKY MOUNTAIN								
Fires	855	151	1,157	404	197	2005	654	2006
Acres	62,589	9,387	81,363	56,716	2,665	2003	2,011	2011
EASTERN AREA								
Fires	5,661	2,414	10,488	7,539	3,159	2011	11,553	2009
Acres	46,169	27,357	68,374	90,422	40,531	2011	168,614	2003
SOUTHERN AREA								
Fires	8,878	2,717	10,170	19,633	9,889	2006	27,761	2006
Acres	202,700	141,664	241,798	821,212	172,627	2005	2,081,585	2011
NATIONALLY								
Fires	17,857	7,256	26,502	30,987	21,349	2011	41,845	2006
Acres	373,479	364,683	453,579	1,284,624	370,640	2011	3,119,542	2011

Prepared April 1, 2012 by the National Interagency Coordination Center Predictive Services Staff. The information above was obtained *primarily* from Incident Management Situation Reports from 2002-2012, however some inaccuracies and inconsistencies have been corrected. Therefore, the data may not reflect other historic records and should *not* be considered for official statistical purposes.

Note: This national outlook and some geographic area assessments are currently available at the NICC and GACC websites. The GACC websites can also be accessed though the NICC webpage at: **http://www.nifc.gov/nicc/predictive/outlooks/outlooks.htm**